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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/21/2001

James R. Mattson

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09/26/2005

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EXAMINER

DYKE, KERRI M

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/036,921	MATTSON ET AL.	
	Examiner	Art Unit	
	Kerri M. Dyke	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 7-21 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/21/01 & 8/15/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 5 element 58. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 3 element 29, Figure 4 element 40, and Figure 8 element 144. Corrected drawing sheets in compliance

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with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "163" and "164" have both been used to designate the step of reporting the results of the verification and management procedures to the management interface in figure 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 13-19 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 13 recites the limitation "message" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim. For purposes of further examination the examiner has assumed that claim 13 was meant to depend from claim 12 and not claim 11.

8. Claim 21 recites the limitation "the step of using the information" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim. For purposes of further examination the examiner has assumed that claim 21 was meant to depend from claim 20 and not claim 19.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 3-4, 7-8, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bengal et al. (US 5,854,824).

11. In regards to claim 1, Bengal et al. discloses a method comprising: inserting into the overhead of a frame in each data stream an equipment identifier, a transmit port, the strand, and equipment type; transmitting the frames; receiving the frames; and extracting the inserted information from the overhead and assembling messages. Column 6 lines 1-11 disclose sending

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a message with identification information from a transmitting port to a receiving port and extracting the information to a message for use in determining the status of the end node.

Column 11 lines 7-11 disclose that equipment type/identifier, the port, and the strand are included in the inserted information. Items (a) and (b) are related to the equipment type/identifier and item (c) provides the port and strand information. The term “strand” includes a wire. Page 19 of appendix A discloses the format for the message, which is disclosed as being sent either independently or within a header.

12. In regards to claim 3, Bengal et al. discloses the method of claim 1 further comprising using the strand identifier to verify the integrity of the strand. Column 6 lines 10-11 and column 12 lines 5-6 indicated that the received messages are used to verify the integrity of the strand.

13. In regards to claim 4, Bengal et al. discloses the method of claim 3 further comprising verifying a sequence of the strands. Figures 8C and 9 illustrative apparatuses available for the testing of a sequence of strands. Figures 8A and 8B illustrate apparatus that could be used to test the sequence one at a time. The figures are described in column 8 lines 29-64.

14. In regards to claim 7, Bengal et al. discloses the method of claim 1 wherein the step of extracting information from the overhead includes using the port and equipment identifiers to perform at least one of the following: verification of adherence to equipping rules; contiguity verification of strand in strand bundles; and generation of a connectivity map of at least some of the collocated nodes. Column 12 lines 5-8 describes how the information is used to form a routing table representing the connectivity status of the nodes, i.e. a connectivity map.

15. In regards to claim 8, Bengal et al. discloses the method of claim 7 further comprising a step of reporting to a management interface at least one of: a detected conflict with programmed

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equipping rules, a breach of contiguity bundles of optical fiber, and the generated connectivity map. Column 12 lines 1-8 disclose that the connectivity map is reported to the control station. The control station is shown in figure 7 to be the computer, element 50. The control station is the management interface.

16. In regards to claim 20 and 21, Bengal et al. discloses inserting information about the sending node into the header of a frame, transmitting the frame to a second node, extracting the information, and using the information to configure the port (see the claim 1 rejection) and for the port configuration to be in line with connection management requirements. Page 6 of appendix A discloses that the information received is used to determine time out procedures. The time out procedures are an example of connection management requirements of the port configuration parameters.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bengal et al. (US 5,854,824) in view of Liu et al. (WO 02/073,852, provided by applicant).

20. In regards to claim 9, Bengal et al. discloses the method of claim 1 wherein the nodes perform bidirectional transport (The collision handling section on page 14 of appendix A is evidence that the link is bidirectional.) and extract the port and equipment identifiers. Bengal et

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al. does not disclose putting the identifier information into a reply message, transmitting the reply message and using reception and correlation of the reply to verify the link.

Liu et al. discloses using the reception of a reply message to verify link status on page 4, paragraph 19.

It would have been obvious to one of ordinary skill in the art to use a reception message to verify link status, as taught by Liu et al. in the network setup and verification method taught by Bengal et al. because it is necessary to ensure that all links are operating correctly as taught by Liu et al. in paragraph 3 on page 1. Use of a handshake also eliminates or reduces the need for a control station to monitor the links for verification purposes.

21. In regards to claim 11 Bengal et al. and Liu et al. disclose the method of claim 9 further using SONET or SDH frames. Liu et al. discloses using SONET on pages 3 and 7.

22. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bengal et al. (US 5,854,824) in view of Liu et al. (WO 02/073,852, provided by applicant) further in view of Russ et al. (US 5,841,759).

23. In regards to claim 10, Bengal et al. and Liu et al. disclose the method of claim 9, but not further comprising reporting a detected mismatch between the pairing to the management interface.

Russ et al. discloses detecting and reporting a mismatch in column 6 lines 21-28.

It would have been obvious to one of ordinary skill in the art to add detecting mismatches as taught by Russ et al. to the verification system taught by Bengal et al. and Liu et al. because a mismatch may utilize more resources than necessary as taught by Russ et al. in column 1 lines 50-64.

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24. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bengal et al. (US 5,854,824).

25. In regards to claim 12, Bengal et al. discloses a message including: an equipment identifier, port identifier, strand identifier, and equipment type identifier (see the rejection of claim 1). Bengal et al. does not disclose using fiber optic strands. It would have been obvious to one of ordinary skill in the art to use fiber optics because of the many advantages such as smaller size, lighter weight, and electromagnetic immunity, facts supported by Ohio University's ITS project.

26. In regards to claim 13, Bengal et al. disclose the message of claim 12 wherein the message is carried in the overhead of a data frame (see the rejection of claim 1).

27. In regards to claim 14, Bengal et al. and Liu et al. disclose the message of claim 13 using the J0 bytes of either SONET or SDH frames (see the rejection of claim 11).

28. In regards to claim 15, Bengal et al. discloses the message of claim 13 wherein the equipment identifier identifies one of a shelf controller for the transmit port and the sending node. Column 11 lines 7-11 indicate that the level (shelf) is identified as well as the sending and receiving port numbers.

29. In regards to claim 16, Bengal et al. discloses the message of claim 15, but not wherein the equipment identifier is a MAC address. It would have been obvious to one of ordinary skill in the art to use the MAC address as the equipment identifier because the MAC address is a factory assigned unique number. Using the unique number prevents the need to assign identifiers to all the equipment and there is no need to worry about assigning duplicate names.

Allowable Subject Matter

30. Claims 2, 5-6, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

31. Claims 17-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Goodrich (US 4,833,708) discloses sending messages to a central office to supervise and verify connections in a consolidated network element.
- b. Hansen et al. (US 4,953,194) discloses a method for identifying and verifying network connections.
- c. King (US 5,296,850) discloses sending messages with node/port identifying information to a central unit, which constructs a connectivity map.
- d. Fatehi et al. (US 5,296,956) discloses an optical network that inserts maintenance signals into the normal data stream to monitor for faults.
- e. Glitho et al. (US 5,638,357) discloses a method of verification testing in a bidirectional packet network.
- f. Brimmage et al. (US 6,044,064) discloses embedding verification messages into traffic messages.

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g. Brimmage et al. (US 6,049,529) discloses breaking the verification message into parts and embedding each in the header of successive packets. The information in the verification includes node identification, sender port identification, and the IP address.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 8:10 am - 4:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmd


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